

ELECTRICAL LAB

- The Electrical Lab Helps to Understand the Basics Functions and Physical Properties of Electrical Components Like Motor Control Units and Low Voltage Switchgear Components. This Electrical Training Includes Speed Control of Ac/Dc Motors, Power Systems, Switchgear & Motor Maintenance/Service and Participants Are Trained on Basics, Programming & Commissioning of devices. These Labs Are Based On Latest Products, Technology, Configurations Used in Industries Like Power Plants, Sugar Plants, Cement Plants etc. Which Gives Opportunity to Practice/Simulate Operations & Failures and Also Possibility of Large Variety of Application Develops Interest.

Software's Installed:

- SINAMICS STARTER V4.5.1
- SIMOCODE ES V13
- SIMARIS CURVES 5
- SIMARIS DESIGN 9

SINAMICS STARTER V4.5.1

You can use the STARTER commissioning tool to configure and commission drives or drive systems of the MICROMASTER and SINAMICS series. The drive configuration can be performed with the aid of the wizard for drive configuration. Once the wizard has been run through, you can go online and download the settings to the drive unit. Special parameterizations and control can be performed.

This STARTER software can do following

- Configure Drives
- Connect with target device (go online)
- Working with drive units and drives
- Alarms, parameters and function diagrams
- Diagnostic functions
- Compare projects
- Scripts for Automated Execution

SIMOCODE ES V13

SIMOCODE ES is an Ease of planning, high configuration reliability, rapid commissioning as well as parameterization, diagnostics, and maintenance-relevant monitoring functions:

- All these are characteristics of convenient engineering with SIMOCODE ES, the central software for configuration, commissioning, operation, and diagnostics of SIMOCODE pro devices.

- Integrated in the uniform engineering framework of the Totally Integrated Automation Portal (TIA Portal), SIMOCODE ES represents the efficient and intuitive solution for all automation tasks.

SIMARIS CURVES 5

The SIMARIS curves software, which also comes free of charge, visualizes characteristic curves with tolerance bands as well as setting options of specific parameters for low-voltage protective devices and fuses (IEC).

- Characteristic cut-off current and let-through energy curves are also displayed.
- SIMARIS curves enables viewing several characteristic tripping curves in parallel and also simulating parameter settings for protective devices.
- To display characteristic curves, select appropriate products by directly entering the Siemens order number, or use the convenient catalogue selection based on technical device data.

SIMARIS DESIGN 9

Based on the requirements of the specific electric power distribution system, SIMARIS design safely and reliably dimensions a system solution from a broad product portfolio which is in compliance with all the relevant standards (VDE, IEC) and reflects the present state of the art in technology.

- Suitable components are selected automatically.
- In addition, the software calculates the short-circuit current, load flow, voltage drop and the energy balance.
- So your network calculation expenditures will be considerably reduced by using SIMARIS design - while providing a high degree of planning reliability

G-120 AC DRIVES

SINAMICS G120 is the modular converter system that addresses the widest range of requirements. Its modular design and wide range of power ratings.

6RA80 DC MASTER DRIVES

The SINAMICS DC MASTER DC Converter range of DC converters sets itself apart as a scalable drive system - for basic as well as demanding drive applications. For the standard closed-loop control, the DC converter is equipped with a standard Control Unit for converters (standard CUD). Simple integration into automation solutions, e.g. using the PROFIBUS communication interface provided as standard together with various analog and digital interfaces.

SIMOCODE KITS

SIMOCODE pro is the flexible and modular motor control system for low-voltage motors. It can easily and directly be connected to automation systems via PROFIBUS or PROFINET and covers

all functional requirements between the motor starter and the automation system – including the fail-safe disconnection of motors.

ENERGY SAVING KIT

Energy saving kit is one-word explanation with three starting technics. which shows energy saving in AC Drive compared to DOL and soft starter connected to induction motor.

SOFT STARTER KIT

Soft starter is a solid-state device that protects AC electric motors from damage caused by sudden influxes of power by limiting the large initial inrush of current associated with motor start-up.

3WL & 3WT ACB's

3WL & 3WT Air Circuit Breakers (ACB) is an electrical device used to provide Overcurrent and short-circuit protection for electric circuits over 800 Amps to 10K Amps. These are usually used in low voltage applications below 450V.

3VT & 3VA MCCB DEMO KIT

Advancing digitalization and automation are creating new challenges in electrical power distribution. Systems and components must be integration-capable, communicative, and completely flexible to reliably protect electrical systems against faults and failures. Powerful components such as 3VA molded case circuit breakers ensure the necessary safety and flexibility in digital environments.

PAC 4200

The SENTRON PAC4200 is a feature packed power monitoring device that is suitable for use in industrial, government and commercial applications where basic to advanced metering, logging, and I/O is required. The meter may be used as a standalone device monitoring over 200 parameters or as part of an industrial control, building automation or global enterprise wide monitoring system.

TIMER AND RELAY CIRCUIT

Timing relays are employed wherever simple time-controlled processes are required. Timing relays are also and particularly required in connection with a control. Whether ON or OFF delay relays or relays for switchover from start to delta – SIRIUS timing relays are employed for all delayed switching processes in control, starting, protection and regulation circuits.

STAR DELTA KIT

The assembly and connection of a star-delta (wye-delta) combination general and innovative types. a star-delta starter or the infeed system, with their modular design, our products can be planned and built into a control cabinet in a very simple way.

TYPE TO COORDINATION KIT

A motor starter incorporating type 2 coordination will again protect personnel and equipment from harm, but will also be suitable for further service without extensive repairs or replacements. This allows the motor starter to continue use without the need for extensive maintenance or downtime.

AC INDUCTION MOTORS

Asynchronous induction motors are a preferred choice for industrial applications due to their rugged construction, absence of brushes, and the ability to control the motor speed. Compact, with high-power density, Siemens high-performance induction motors are almost maintenance-free and feature an optional integrated, high-resolution measuring system for high-end speed and position control.

Courses Offered:

S.No	Domain	Course Name	Hours	Prerequisites
1	Electrical	Basics of Induction Motors	24	Electrical, Electronics, Mechanical, Instrumentation engineers (5 th Semester)
2	Electrical	Low Voltage Switch gear	40	Electrical, Electronics, Mechanical, Instrumentation engineers (5 th Semester)
3	Electrical	Basic Power Systems	40	Electrical, Electronics, Mechanical, Instrumentation engineers (5 th Semester)
4	Electrical	Basic Course on Ac - Dc Drive	42	Electrical, Electronics, Mechanical, Instrumentation engineers (6 th Semester)